

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A zoom method comprising:

searching a center search line of a photographic screen, wherein the center search line comprises a horizontal axis at an approximate center of the photographic screen;

searching an upper search line from the center search line;

searching a lower search line from the center search line;

extracting a color average value and a deviation of a photographic object within the photographic screen for each of the upper search line and the lower search line;

determining a size of photographic object based on the extracted color average value and the extracted deviation for each of the upper search line and the lower search line; and

setting a zoom ratio by comparing the determined size of the photographic object with a reference value or with a preset size.

- 2-3. (Canceled)

4. (Previously Presented) The method of claim 1, wherein determining the size of the photographic object comprises:

analogizing a size of a photographic object by calculating the average value and the deviation; and

judging whether the photographic object is a normal region corresponding to a photographic mode.

5. (Original) The method of claim 4, further comprising converting a digital camera into a user hand mode so that a user can perform a direct zoom processing when the photographic object is not a normal region.

6. (Original) The method of claim 1, wherein searching the center search line comprises:

setting a photographic mode;

preprocessing the photographic screen; and

performing a line scanning at a region of the center search line.

7. (Original) The method of claim 6, wherein preprocessing the photographic screen comprises performing one of a smoothing method and a blurring method for minimizing error generation.

8. (Canceled)

9. (Previously Presented) The method of claim 1, further comprising:
detecting the photographic object by the searching of the center search line;
searching a number of upper search lines from the center search line;
searching a number of lower search lines from the center search line; and
extracting the color average value and the deviation of the photographic object for
each of the searched upper search lines and the searched lower search lines.

10. (Previously Presented) The method of claim 9, wherein searching the number of
upper and lower search lines comprises performing a line-scanning, and searching lines set with a
predetermined gap up and down one line by one line.

11. (Previously Presented) The method of claim 9, wherein when the photographic
object is not detected, the method further comprises:

resetting the center search line;
resetting upper search lines and lower search lines based on the reset center search
line; and
searching the number of upper and lower search lines based on the reset search
line.

12. (Canceled)

13. (Previously Presented) The method of claim 1, wherein the reference value comprises one of a value manually preset by a user and a value preset based on a screen contrast.

14. (Previously Presented) A zoom method comprising:
searching a plurality of lines of a photographic screen by alternatively searching lines with a pre-determined gap up or down one line by one line;
for each of the plurality of lines, extracting a color average value and a deviation of a photographic object on the photographic screen;
determining a size of a photographic object based on the extracted color average value and the extracted deviation for each of the plurality of lines;
determining a zoom ratio by comparing the determined size of the photographic object and a reference value; and
applying the determined zoom ratio to the photographic object.

15. (Previously Presented) The method of claim 14, further comprising:
setting a center search line of the photographic screen, and wherein the extracting includes performing a line scan of the center search line to extract the color average value and the deviation.

16. (Original) The method of claim 14, further comprising:
preprocessing the photographic screen according to a set photographic mode.

17. (Original) The method of claim 16, wherein the photographic mode comprises one of a portrait mode and a text mode.

18. (Original) The method of claim 16, wherein the preprocessing comprises one of a smoothing method and a blurring method for minimizing error generation.

19. (Previously Presented) The method of claim 15, wherein the center search line comprises a horizontal axis at an approximate center of the photographic screen for performing a line scan in order to detect the photographic object.

20. (Previously Presented) The method of claim 15, further comprising resetting the center search line when the photographic object is not detected along the center search line, and wherein the extracting includes performing a line scan based on the reset center search line.

21. (Canceled)

22. (Original) The method of claim 14, further comprising converting into a user hand mode so that a user can perform a direct zoom processing when the photographic object is not a normal region.

23. (Original) The method of claim 14, wherein the reference value comprises one of a value preset manually by a user and a value preset based on a screen contrast.

24. (Previously Presented) A zoom method of a digital camera apparatus associated with a mobile communication terminal, the method comprising:

searching a center search line of a photographic screen to detect a photographic object, wherein the center search line is approximately at a center of the photographic screen;

searching an upper search line of the center search line to extract an average value and a deviation of a skin color of the photographic object;

searching a lower search line of the center search line to extract an average value and a deviation of a skin color of the photographic object;

determining a size of a face region based on the extracted average value and the extracted deviation of the skin color for the upper search line and based on the extracted average value and the extracted deviation of the skin color for the lower search line;

comparing the determined size of the face region with a reference value;

calculating a zoom ratio based on the comparing; and

applying the calculated zoom ratio to the photographic screen.

25-27. (Canceled)

28. (Original) The method of claim 24, further comprising resetting a search line and searching the reset search line.

29. (Previously Presented) The method of claim 24, wherein searching the upper search line and searching the lower search line comprises alternatively searching lines set with a predetermined gap up and down one line by one line.

30. (Previously Presented) The method of claim 24, wherein determining the size of the face region comprises:

determining an area of the face region by obtaining a number of pixels that exist within a range of a certain deviation from an average value of a skin color.

31. (Previously Presented) The method of claim 24, wherein determining the size of the face region comprises:

analogizing a length of a longest search line as a face width by obtaining a length variation through search lines having a smaller gap than the upper and lower search lines.

32. (Previously Presented) The method of claim 24, wherein determining the size of the face region comprises judging whether a calculated face region is a normal photographic object.

33. (Previously Presented) The method of claim 32, further comprising converting the digital camera into a user hand mode so that a user can perform a direct zoom processing when the determined face region is not a normal photographic object.

34. (Previously Presented) The method of claim 24, wherein when plural skin colors more than a certain length exist along the center search line and skin colors of a same pattern are detected at adjacent upper and lower search lines, the method further comprises:

determining that a plurality of photographic objects exist;

extracting an average value and a deviation of a skin color for each photographic object judged to be a face;

determining an area of a face region by obtaining a number of pixels that exist within a range of a certain deviation from an average value of each skin color; and

zooming a photographic screen with a preset zoom ratio based on the number and the determined face area of the photographic objects.

35. (Previously Presented) A digital camera zoom method for a mobile communication terminal, the method comprising:

searching a center search line of a photographic screen to detect text;

determining an average value of a stroke thickness of the text by searching upper and lower search lines of the photographic screen;

determining a size of the text based on the determined average value of the stroke thickness of the text;

comparing the determined size of the text with a reference value;

calculating a zoom ratio based on the comparing; and

applying the calculated zoom ratio to the photographic screen.

36. (Original) The method of claim 35, further comprising:

zooming the photographic screen to a maximum degree and enlarging the text.

37-38. (Canceled)

39. (New) A zoom method in a digital camera comprising:

determining which one of at least two modes has been selectively set in the digital camera, wherein the at least two modes includes a first mode and a second mode, the first mode to zoom-process at least one photographic object in a different manner from the second mode;

recognizing the at least one photographic object included in a photographic image based on the set mode; and

zooming the photographic image based on a size of the recognized object.

40. (New) The zoom method of claim 39, wherein the recognizing comprises:

detecting a region corresponding to the at least one photographic object; and

calculating a size of the region according to a number of pixels occupied by the at least one photographic object.

41. (New) The zoom method of claim 40, wherein a zoom-processing speed of the first mode is slower than a zoom-processing speed of the second mode.

42. (New) The zoom method of claim 41, wherein all pixels distributed within the region are counted in the first mode while a portion of pixels distributed within the region is counted in the second mode.

43. (New) The zoom method of claim 42, wherein the portion of pixels includes pixels along a line within the region.

44. (New) The zoom method of claim 40, wherein the detecting is based on a color average value and a deviation of the at least one photographic object.

45. (New) The zoom method of claim 39, wherein the at least one photographic object includes a human face.

46. (New) The zoom method of claim 39, further comprising:
preprocessing the photographic image before recognizing the at least one photographic object so as to minimize noise in the photographic image.

47. (New) A mobile communication terminal having a digital camera, comprising:

- a wireless communication module to receive and transmit a radio frequency;
- the digital camera having a zoom function, wherein the zoom function has at least two modes including a first mode and a second mode, the first mode to zoom-process at least one photographic object in a different manner from the second mode;
- a controller to control the wireless communication module and the digital camera;

and

- a display screen to display information received via the wireless communication module and a photographic image captured by the digital camera under control of the controller,

wherein the controller comprises at least one algorithm to:

- determine which one of the at least two modes has been selectively set in the digital camera;
- recognize the at least one photographic object included in a photographic image based on said set mode;
- zoom the photographic image based on a size of the recognized object; and
- display the zoomed photographic image on the display screen.

48. (New) The mobile communication terminal of claim 47, wherein to recognize the at least one photographic object comprises:

- detecting a region corresponding to the at least one photographic object; and

calculating the size of the region according to a number of pixels occupied by the at least one photographic object.

49. (New) The mobile communication terminal of claim 48, wherein all pixels distributed within the region are counted in the first mode while a portion of pixels distributed within the region is counted in the second mode.

50. (New) The mobile communication terminal of claim 48, wherein the at least one photographic object includes a human face.